



**Qwest**

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**Kenneth T. Cartmell**

Executive Director - Federal Regulatory

July 17, 2000

Mr. Dale Hatfield  
Chief, Office of Engineering and Technology  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW, Room 7-C155  
Washington, DC 20554

RE: CFR 47, Section 63.100  
Final Service Disruption Report, Denver, CO  
DNVRCODCDS0

Dear Mr. Hatfield:

On June 16, 2000, Qwest<sup>1</sup> experienced a Service outage in Denver, Colorado. In accordance with the reporting rules, CFR 47, Section 63.100, enclosed is Qwest's Final Service Disruption Report for this outage.

Please contact me if you have questions concerning this report.

Sincerely,

Attachments

cc: Mr. Robert Kimball  
Mr. Doug Sicker

<sup>1</sup> On June 30, 2000, U S WEST, Inc., the parent and sole shareholder of U S WEST Communications, Inc., merged with and into Qwest Communications International Inc. Further, on July 6, 2000, U S WEST Communications, Inc. was renamed Qwest Corporation.

# Final Service Disruption Report

**Reporting Company:** Qwest

**Location of Disruption:** Denver, CO

DNVRCODCDS0

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**1. Date and Time of Incident:**

June 16, 2000 at 1005 MDT.

**2. Geographic Area Affected:**

Denver, Colorado metro customers served by the Denver Dry Creek Central Office were affected.

**3. Estimated Number of Customers Affected:**

Approximately 77,300 Qwest customers were affected by the outage.

**4A. Types of Services Affected:**

InterOffice Services were affected.

**4B. 911 Service Affected:**

911 was not impacted. There is diversity in the metro area.

**5. Duration of Outage:**

Service was restored at 1440 MDT. The total duration of the outage was 4 hours and 35 minutes.

**6. Estimated Number of Blocked Calls:**

There were approximately 166,700 blocked calls.

**7A. Root Cause of the Incident:**

The root cause of the incident was a failure in the Digital Crossconnect System (DCS) equipment.

The DCS vendor was performing an upgrade to the equipment during the maintenance window. After work was concluded for the evening, alarms were received which indicated that Network Complex A and B configurations were not in agreement. Technicians were dispatched to the Central Office (CO) to investigate.

While technicians were enroute, the DCS machine failed, causing massive blockage into the CO.

While no isolation occurred, service was significantly degraded.

**7B. Name and Type of Equipment:**

Tellabs Titan 5500 DCS.

**7C. Specific Part of Network Affected:**

InterOffice facilities.

**8. Method(s) Used to Restore Service:**

The technicians worked with the vendor to isolate the problem, however the cause could not be determined. A software problem was suspected. The vendor initialized the DCS, after which service began to restore.

**9. Steps Taken to Prevent Recurrence of Outage:**

The following steps have been or will be taken to prevent recurrence of the outage:

On June 17, 2000, the vendor went back into the system to complete the upgrade and the same situation began to occur.

- ◆ The vendor ordered all new circuit packs for the Network Complex-A side, which appeared to fix the problem.
- ◆ All upgrade work was completed on June 19, 2000 and the DCS has remained stable.
- ◆ The cause of the failure is under continuing investigation by the equipment vendor. As of July 10, 2000, the vendor had not been able to duplicate the failure in their laboratory.

**10A. Applicable Best Practice(s):**

Qwest reviewed *Network Reliability: A Report to the Nation*, June 1993 and evaluated all recommendations and best practices by focus area. Based on the root cause analysis, the most appropriate focus areas are:

Section B – Signaling Network Systems

Reference 6.1.1 - Root Cause Analysis

- Section F – E911 Systems

Reference 6.1.1 Diverse Routing of Interoffice Facilities

Reference 6.4 Network Management Center

**10B. Best Practice(s) Used:**

Section B – Signaling Network Systems

Reference 6.1.1 - Root Cause Analysis

Section F – E911 Systems

Reference 6.1.1 Diverse Routing of Interoffice Facilities

Reference 6.4 Network Management Center

**10C. Analysis of Effectiveness of Best Practice(s):**

Section B – Signaling Network Systems

Reference 6.1.1 - Root Cause Analysis

While this recommendation is specific to Signaling Networks, Qwest currently requires a root cause analysis on all significant network failures.

Section F – E911 Systems

Reference 6.1.1 Diverse Routing of Interoffice Facilities

This recommendation describes the optimum configuration of two diverse routes for E911.

The offices impacted by the outage currently have diverse routes available. In this event, due to diversity, there was no 911 isolation.

Reference 6.4 Network Management Center

This recommendation describes the use of centralized network management centers to monitor the E911 network as a unique entity, separate from the rest of the network.

Qwest network traffic for E911 trunk groups is monitored in the two regional Network Management Centers. Qwest also has two Regional Network Reliability Operations Centers with responsibility for monitoring the health of the network.

**Contact Person:**

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00-87

**FCC INITIAL REPORT**  
**U S WEST - Large Scale Abnormal Condition Report (LSACR)**  
**Service Disruption Report**

(X) 120 MINUTE REPORT [ ] 3 DAY REPORT

ACR #: CO.000616.003Date Of Incident: 6/16/00 Time Of Incident: 10:30 MDTGeographic Area Directly Affected: Denver Co (Dry Creek)  
(Cities, LATAs, States(s))CLLI code(s) for affected area: DNVRCD58Estimated Number of Customers Affected: 77,275  
(i.e. Access lines in the switch, LATA(s) or States(s))Types of Services Affected (e.g. Local, Toll, 800, 911, FAX, etc.): InterofficeDuration of Outage (Hours & Minutes): OngoingEstimated Number of Blocked Calls: Under investigationApparent Cause of Incident: Under investigationMethod Used to Restore Service: UnknownSteps Taken to Prevent Recurrence: Unknown

CONTACT PERSON: Kenneth Cartmell-Exec. Dir-Fed Regulatory Ph: 202-429-3136  
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-or-  
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Director - Network Management Center  
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700 W. Mineral, Littleton, CO 80120

Date Reported to FCC: 06/16/00Time Reported to FCC: 12:18 MDT  
(Include AM/PM, Time Zone)Person Faxing Report: Manuel Baldivia

Time Confirmed with FCC: \_\_\_\_\_

Telephone Number: 800-879-1200

FCC Contact Name: \_\_\_\_\_

**PRI FAX: Monitoring Watch Officer (202) 418-2812-Confirm at (202) 632-6975**

Secondary FAX: Monitoring Watch Officer (301) 725-2521 - Confirm at (301) 725-2278  
(To be used only at the direction of the Primary Fax Monitoring Watch Officer)

**Also FAX to:** U S WEST Federal Relations Office at (202) 296-5157**Also FAX to:** Karen Eccli/Jane Quigley (303) 707-2229**Also FAX to:** Glenda Weibel (206) 345-2129**Also FAX to:** Bev Sharpe (303) 694-1719

Form Issue Date: 01/25/00

